

IN THE CLAIMS

Please amend claims 1, 7 and 13, as follows.

1 1. **(Currently Amended)** A computer-based method for determining the optimum
2 join sequence for processing a query having a plurality of tables from a relational database stored
3 in an electronic storage device having a database management system, the method comprising
4 the steps of:

5 (a) a first pass using simulation for determining an optimum join sequence for joining the
6 plurality of tables from the query; and

7 (b) a second pass for using the optimum join sequence for creating a lowest cost access
8 path plan for processing the query.

1 2. **(Original)** The method according to claim 1, wherein the first pass performing
2 successive steps until creation of a simulated composite table having all tables from the query,
3 wherein each said step:

4 creating a set of miniplans for simulating all possible joins of a predetermined subset of
5 the query tables; and

6 using a cost model calculations for estimating and saving the least expensive join from
7 said set of joins, thereby determining the optimum join sequence.

1 3. **(Original)** The method according to claim 2, wherein the first pass for each said
2 miniplan storing a used table index, join method, and sorting data, and for each said least
3 expensive join storing names of joined tables, join cost and possible row orderings.

1 4. **(Original)** The method according to claim 3, wherein the first pass only storing
2 non-redundant miniplan data, and saving partial results of the cost model calculations for future
3 reuse.

1 5. **(Original)** The method according to claim 1, wherein the second pass performing
2 successive steps until creation of a simulated composite table having all tables from the query,
3 wherein each said step being performed in the optimum join sequence.

1 6. **(Original)** The method according to claim 1, wherein the query being a SQL
2 query.

1 7. **(Currently Amended)** A computer-based processor system for determining the
2 optimum join sequence for processing a query having a plurality of tables from a relational
3 database stored in an electronic storage device having a database management system, the
4 system comprising:

5 means for performing a first pass using simulation for determining an optimum join
6 sequence for joining the plurality of tables from the query; and

7 means for performing a second pass for using the optimum join sequence for creating a
8 lowest cost access path plan for processing the query.

1 8. **(Original)** The system according to claim 7, wherein the first pass means
2 performing successive steps until creation of a simulated composite table having all tables from
3 the query, wherein each said step:
4 creating a set of miniplans for simulating all possible joins of a predetermined subset of
5 the query tables; and
6 using a cost model calculations for estimating and saving the least expensive join from
7 said set of joins, thereby determining the optimum join sequence.

1 9. **(Original)** The system according to claim 8, wherein the first pass means for each
2 said miniplan storing a used table index, join method, and sorting data, and for each said least
3 expensive join storing names of joined tables, join cost and possible row orderings.

1 10. **(Original)** The system according to claim 9, wherein the first pass means only
2 storing non-redundant miniplan data, and saving partial results of the cost model calculations for
3 future reuse.

1 11. **(Original)** The system according to claim 7, wherein the second pass means
2 performing successive steps until creation of a simulated composite table having all tables from
3 the query, wherein each said step being performed in the optimum join sequence.

1 12. **(Original)** The system according to claim 7, wherein the query being a SQL
2 query.

1 13. **(Currently Amended)** A computer usable medium tangibly embodying a
2 program of instructions executable by the computer to perform a computer-based method for
3 determining the optimum join sequence for processing a query having a plurality of tables from a
4 relational database stored in an electronic storage device having a database management system,
5 the method comprising the steps of:

6 (a) a first pass using simulation for determining an optimum join sequence for joining the
7 plurality of tables from the query; and

8 (b) a second pass for using the optimum join sequence for creating a lowest cost access
9 path plan for processing the query.

1 14. **(Original)** The method according to claim 13, wherein the first pass performing
2 successive steps until creation of a simulated composite table having all tables from the query,
3 wherein each said step:

4 creating a set of miniplans for simulating all possible joins of a predetermined subset of
5 the query tables; and

6 using a cost model calculations for estimating and saving the least expensive join from
7 said set of joins, thereby determining the optimum join sequence.

1 15. **(Original)** The method according to claim 14, wherein the first pass for each said
2 miniplan storing a used table index, join method, and sorting data, and for each said least
3 expensive join storing names of joined tables, join cost and possible row orderings.

1 16. **(Original)** The method according to claim 15, wherein the first pass only storing
2 non-redundant miniplan data, and saving partial results of the cost model calculations for future
3 reuse.

1 17. **(Original)** The method according to claim 13, wherein the second pass
2 performing successive steps until creation of a simulated composite table having all tables from
3 the query, wherein each said step being performed in the optimum join sequence.

1 18. **(Original)** The method according to claim 13, wherein the query being a SQL
2 query.